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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,863	03/29/2000	Osamu Funahashi	2000 0402A	7280

7590

07/30/2004

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EXAMINER

FAULK, DEVONA E.

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 07/30/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/537,863

Applicant(s)

FUNAHASHI ET AL.

Examiner

Devona E. Faulk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 15-18, 21-24 and 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 14, 19, 20, 25, 26 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed in Paper No. 12, on 5/13/04, regarding claims 1,3-10,14,19,20,25,26 have been fully considered but they are not persuasive. Regarding claim 1, the applicant asserts, on page 9, under Section III, that Funahashi fails to disclose the amended claim language "baffle having a unitary structure". The examiner interprets this as new matter because the applicant has not disclosed what "having a unitary structure" is in the specification. The applicant has only disclosed that "the front baffle being a constituent part of a speaker box" (page 4, line18; page 7, line 30; page 14, line 19). Furthermore "having a unitary structure" is indefinite. Unitary is defined as "of or relating to a unit or based on or characterized by one of more units". So, the Funahashi reference would still be interpreted as reading on the claim language. Therefore the examiner is maintaining the double patent rejection of claim 1 as well as adding a 112 rejection due to the newly recited claim language.
2. Regarding claims 3-10,14,19,20,25, and 26, the applicant asserts, on page 10, Section III, lines 4-8, and Section IV, lines 20-25, that due to dependency on claim 1 that these claims are now allowable. The examiner disagrees for reasons stated above, with regards to claim 1. Therefore, the rejections of claims 3-10,14,19,20,25 and 26 are maintained.
3. Applicant's arguments, see Paper No. 12, filed, 5/13/04, with respect to the rejection(s) of claim(s) 2 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Beppu (U.S. Patent 5,621,804). Regarding claim 2, the applicant asserts, on page 10, lines 9-13 that Funahashi fails to disclose the amended claim language that "the sub-baffle is

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disposed between the passive radiator unit and the baffle". The applicant agrees but prior art was found that disclosed this concept. Rejections based on the newly cited references follow.

4. Applicant's arguments, see Paper No. 12, filed, 5/13/04, with respect to the rejection(s) of claim(s) 13 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Beppu (U.S. Patent 5,621,804). Regarding claim 2, the applicant asserts, on page 10, lines 9-13, that Funahashi fails to disclose the amended claim language that "exposing a plate portion of said speaker unit to an outside of said speaker apparatus". The applicant agrees but prior art was found that disclosed this concept. Rejections based on the newly cited references follow.

5. Applicant's arguments, see Paper No. 12, filed, 5/13/04, regarding the newly recited claim 31 have been fully considered and are persuasive. Funahashi does not teach of the recited claim language, particularly, "exposing a plate portion of the speaker unit to an outside of the speaker apparatus". However, upon further consideration, prior art was found that is made in view of Beppu (U.S. Patent 5,621,804). Rejections based on the newly cited references follow.

6. Claims 11,12,15-18,21-24, and 27-30 were cancelled due to restriction election.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,031,919, Funahashi et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter is obviously the same for the reasons: Claim 3 of Application No. 09/537863 claims a speaker apparatus' and a sound reproduction apparatus, where claim 3 claim a speaker system and a sound reproducing apparatus. Inspected closely, the claims obviously read on the same subject matter with the claims of Application No. 09/537863 being broader. Since claim 1 of Application No. 09/537863 is broader than the claim 3 of U.S. Patent No. 6,031,919, then claim 1 of Application No. 09/537863 would obviously infringe on the narrower claim, claim 3, of U.S. Patent No. 6,031,919.

Claim Rejections - 35 USC § 112

9. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 claims the newly cited limitation "baffle having a unitary structure". This is not disclosed in the specification.

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10. Regarding claim 1, the phrase "having a unitary structure" renders the claim indefinite because it is unclear what is meant by "unitary structure.. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. **Claims 1-3, 6-9, 13 and 19** are rejected under 35 U.S.C. 102(b) as being anticipated by Funahashi et al. (EP 0 800 330 A2).

Regarding **claim 1**, Funahashi discloses a speaker system comprising a speaker unit (402), which reads on "a speaker unit"; a passive radiator (401), which reads on "a passive radiator unit"; a baffle (403) being a constituent of speaker box for mounting the passive radiator (401) and the speaker unit (403), which reads on "a baffle on which said speaker unit and said passive radiator unit are mounted, said baffle forming a constituent part of a speaker box"; a cabinet (407; Figure 1) that constitutes a speaker box in combination with the baffle (403) and a sub-baffle (406), which reads on "a back plate, wherein said speaker unit, said passive radiator unit and said baffle form a closed chamber" and "wherein said speaker unit (402), said baffle (403) and said back plate (407) form a second closed chamber"; the speaker unit (402) is mounted in a reverse orientation relative to passive radiator (column 5, lines 42-51), which reads on "wherein said speaker unit is disposed so that a in direction of said speaker unit is opposite to

a direction of said passive radiator unit, or in a direction that is **substantially** opposite to a direction of said passive radiator unit”.

Claim 3 claims the speaker apparatus of claim 1 wherein said passive radiator unit is mounted on a closed back frame having an opening in one direction of a side of said frame. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Figure 1 shows a Kelton type speaker and indicates that the passive radiator (401) is mounted on a frame, the cabinet (407) being the frame.

Claim 6 claims the speaker apparatus of claim 1 wherein an area of an opening in said baffle is not less than 30% of an effective area of a diaphragm of said speaker unit, said opening connecting a space between said speaker unit and a diaphragm of said passive radiator unit. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Figure 1 indicates that the opening through which the passive radiator/ diaphragm sits is at least the same size of the diaphragm and that the opening connects a space as claimed.

Claim 7 claims the speaker apparatus of claim 1, wherein a corner edge of an opening connecting a space between said speaker unit and a diaphragm of said passive radiator unit in said first closed chamber is chamfered or rounded. As stated above apropos of claim 1, Funahashi anticipates all elements of claim. Because the passive radiator is not square (see Figure 2), it is inherent that any corner edge of an opening connecting a space between the speaker and diaphragm would have to be chamfered so that the diaphragm can fit properly to the passive radiator.

Claim 8 claims the speaker apparatus of claim 1, where a semi-circular or arc-shape holder is provided integrally at a vicinity of an opening connecting a space between and said

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speaker unit and a diaphragm of said passive radiator unit in said first closed chamber, said holder supporting a damper of said passive radiator unit. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Funahashi further teaches that the passive radiator has a damper and edge (column 5, line 26). It is inherent that a

Claim 9 claims the speaker apparatus of claim 1, further comprising a diffuser disposed in front of said baffle, and an acoustic opening disposed in a direction perpendicular to a direction of sound radiation from said passive radiator unit. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Figure 12 teaches of another embodiment with a diffuser (408) that reads on the claimed matter (column 9, lines 20-30)

Claim 19 claims the speaker apparatus of claim 13 wherein said plate portion of said speaker unit is provided with an uneven surface. As stated above apropos of claim 13, Funahashi meets all elements of that claim. Whether or not the plate portion of said speaker unit has an uneven surface is a matter of design choice.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 4, 5, 10, 14, 20, 25, and 26** are rejected under 35 U.S.C. 103(a) as being obvious over Funahashi et al. (EP 0 800 330 A2) in view of Perkins et al. (U.S. Patent 6,259,798).

Claim 5 claims the speaker apparatus of claim 4, wherein said edge is an up roll type edge. As stated in apropos of claim 4, Funahashi meets all elements of that claim. Although he does not speak specifically to the type of edge, it would be a matter of design choice.

Claim 10 claims the speaker apparatus of claim 1, wherein said baffle is provided with heat dissipation slits and a sealing material in a region which makes contact with a bottom plate of said speaker unit. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Funahashi teaches that the back closed cavity (405) seals sound output from the front of speaker unit (402) (column 4, lines 57-57; figure 1). There is obviously some sort of sealing material present. Perkins teaches of a powered speaker having an aluminum front panel with vents or ports and of a heat sink such as internal webs or fins (column 1, lines 25-34). Heat sinks or heat fins permit better dissipation of heat. Thus it would have been obvious to one of ordinary skill in the art to provide Funahashi's plate portion of the speaker with heat slits for the benefit of providing for more efficient cooling of the speaker.

Claim 14 claims the speaker apparatus of claim 1 further comprising a sealing panel wherein said second closed chamber is formed by said speaker unit, said baffle, said back plate and said sealing panel. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Funahashi teaches that the back closed cavity (405) seals sound output from the front of speaker unit (402) (column 4, lines 57-57; figure 1). Figure 1 indicates one closed chamber that reads on the claimed matter. There is obviously some sort of sealing material present. Thus it would have been obvious to one of ordinary skill in the art to provide Funahashi's plate portion of the speaker with heat slits for the benefit of providing for more efficient cooling of the speaker.

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Claim 20 claims the speaker apparatus of claim 13 wherein said plate portion of said speaker unit is provided with heat radiation fins. As stated above apropos of claim 13, Funahashi meets all elements of that claim. Perkins teaches of a powered speaker having an aluminum front panel with vents or ports and of a heat sink such as internal webs or fins (column 1, lines 25-34). Heat sinks or heat fins permit better dissipation of heat. Thus it would have been obvious to one of ordinary skill in the art to provide Funahashi's plate portion of the speaker with heat fins for the benefit of providing for more efficient cooling of the speaker.

Claims 4, 25 and 26 claim the speaker apparatuses of claims 1, 2 and 3 respectively wherein said passive radiator unit is provided with an edge having a thick central portion covering the surface of a diaphragm and a circumference portion integrally formed together. Edges are part of the support system for passive radiators. Figure 1 shows the passive radiator is on top of the diaphragm. Figure 2 shows the passive radiator (401). It is obvious that the edges would have to be thick enough to support the diaphragm. Thus it would have obvious to one of ordinary skill in the art at the time of the invention to have the edge cover the surface of the diaphragm for the benefit of making sure the diaphragm is secure.

15. **Claim 2** is rejected under 35 U.S.C. 103(a) as being obvious over Funahashi et al. (EP 0 800 330 A2) in view of Beppu (U.S. Parent 5,621,804).

Claim 2 claims the speaker apparatus of claim 1 further comprising an auxiliary baffle disposed in front of said baffle, and wherein said first closed chamber is formed by said speaker unit, said passive radiator unit and said baffle and said auxiliary baffle. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. He further teaches of a sub-baffle (406) that splits a space into the front closed cavity (404) and the back closed cavity (405) and a

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cabinet (407). Figure 1 shows a Kelton type speaker and indicates the sub-baffle is disposed in front of the baffle (403) and it along with the speaker unit (402), passive radiator (401), and baffle (403) forming a first closed chamber. He does not teach of the sub-baffle disposed as claimed. Beppu discloses a sub-baffle (12) disposed between a baffle (11) and a passive radiator unit (drone cone (17)) (Figure 4) (column 5, line 60-column 6, line 10). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have Funahashi's auxiliary baffle disposed as claimed in order to radiate low-distortion sound.

16. **Claim 13, and 31** are rejected under 35 U.S.C. 103(a) as being obvious over Funahashi et al. (EP 0 800 330 A2) in view of Jeter, Jr. (U.S. Patent 5,929,393).

Claim 13 claims the speaker apparatus of claim 1, wherein an opening is provided for exposing a plate of said speaker unit to an outside of said speaker apparatus. As stated above apropos of claim 1, Funahashi anticipates all elements of that claim. Jeter discloses a speaker (9) mounted in a speaker opening (Figure 1, column 3, lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Jeter's concept of the speaker mounted in a speaker opening in order to facilitate superior sound distribution.

Regarding **claim 31**, Funahashi discloses a speaker system comprising a speaker unit (402), which reads on "a speaker unit"; a passive radiator (401), which reads on "a passive radiator unit"; a baffle (403) being a constituent of speaker box for mounting the passive radiator (401) and the speaker unit (403), which reads on "a baffle on which said speaker unit and said passive radiator unit are mounted, said baffle forming a constituent part of a speaker box"; a cabinet (407; Figure 1) that constitutes a speaker box in combination with the baffle (403) and a sub-baffle (406), which reads on "a back plate, wherein said speaker unit, said passive radiator

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unit and said baffle form a closed chamber” and “wherein said speaker unit (402), said baffle (403) and said back plate (407) form a second closed chamber”; the speaker unit (402) is mounted in a reverse orientation relative to passive radiator (column 5, lines 42-51), which reads on “wherein said speaker unit is disposed so that a in direction of said speaker unit is opposite to a direction of said passive radiator unit, or in a direction that is opposite to a direction of said passive radiator unit”. Although he teaches on the above named elements, Funahashi fails to disclose exposing plate portion of said speaker unit to an outside of said speaker apparatus. Jeter discloses a speaker (9) mounted in a speaker opening (Figure 1, column 3, lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Jeter’s concept of the speaker mounted in a speaker opening in order to facilitate superior sound distribution.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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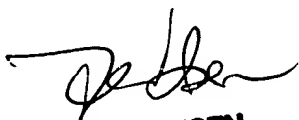
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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